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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,351	12/31/2003	Mark Davies	79945	9478

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EXAMINER
SWEENEY, PATRICK E

ART UNIT	PAPER NUMBER
2162	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/750,351	DAVIES ET AL.
	Examiner	Art Unit
	PATRICK E. SWEENEY	2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _13 December 2003_.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-17_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-17_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _14 June 2004_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _20050719_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1.   This Action is in response to the original filing of December 13, 2005. Claims 1-

17 are pending and have been considered below.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on June 9, 2007 is in

compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure

statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public
use or on sale in this country, more than one year prior to the date of application for patent in the United
States.

4.   Claims 1, 3-9, 11-15, and 17 are rejected under 35 U.S.C. 102(b) as being

anticipated by Oki et al. (US 5,802,528).

Claim 1: Oki discloses a method for determining the similarity of data records in first

and second data sets, the data records having an informational content, the method

comprising:

- identifying a first data record in the first data set that is potentially identical to a

    second data record in the second data set, the identified first and second data

records having an informational content that is non-identical but similar (See Oki

column 1, lines 31-54 where it is disclosed that records from two sets of data are

compared to identify if they are identical or different);

- determining whether the first and second data records identified as potentially

  identical are truly identical based upon a predetermined criteria (See Oki column

  1, lines 31-54 where it is disclosed that based on the comparison between the

  two sets of data it is determined if individual records are identical or not).

Claim 3: Oki discloses the method of claim 1 wherein identifying a first data record and

a second data record includes grouping the records in the first and second data sets

into groups based upon a predetermined criteria (See Oki column 5, lines 17-65 where

it is disclosed that the data can be grouped into separate hash buckets to facilitate the

comparison).

Claim 4: The method of claim 1 wherein identifying includes comparing the

informational content of first data record to the informational content of the second data

record (See Oki column 4, lines 51-66 where it is disclosed that the informational

content of the records are compared).

Claim 5: Oki discloses a method for determining different data records in a

telecommunications system from records in first and second data sets in a comprising:

- identifying potentially different data records in the first data set at least in part by comparing records in the first data set to records in the second data set (See Oki column 1, lines 31-54 where it is disclosed that records from two sets of data are compared to identify if they are identical or different); and

- verifying that the potentially different records identified as potentially different are truly different using at least one predetermined criteria (See Oki column 1, lines 31-54 where it is disclosed that based on the comparison between the two sets of data it is determined if individual records are identical or not).

Claim 6: Oki discloses the method of claim 5 wherein the different data records can be faulty data records or mismatched data records (See Oki column 1, lines 10-28 where it is disclosed that the records may be different for any number of reasons, including data replication errors which would render the records faulty).

Claim 7: Oki discloses the method of claim 5 wherein determining potentially different data records includes defining a set of similarity characteristics, grouping the data records in each of the first and second sets according to the similarity characteristics into similarity groups, and comparing the similarity groups in the first data set to the similarity groups in the second data set (See Oki column 5, lines 17-65 where it is disclosed that records are grouped according to a hashing function, and that individual groups are compared with their counterparts in the other set of data).

Claim 8: The method of claim 5 wherein determining potentially different data records includes determining whether each record in the first data set completely matches with a data record in the second data set (See Oki column 1, lines 31-54 where it is disclosed that the records are compared to determine if they are identical or not).

Claim 9: Oki discloses the method of claim 5 wherein verifying includes determining from the second data set a set of data records that are similar to the potentially different record identified in the first data set (See Oki column 5, lines 17-65 where it is disclosed that the first and second data sets are grouped using identical hash functions, and that the groups in the first data set will therefore correspond to the groups in the second data set).

Claim 11: Oki discloses the method of claim 5 further comprising taking an action relating to the different data records (See Oki column 5, lines 17-65 where it is disclosed that the records that are different are identified and output).

Claim 12: Oki discloses a device for determining faulty data records in a telecommunications system from records in first and second data sets in a comprising:

- a data store containing first and second data sets (See Oki column 4, lines 9-19 where is disclosed that the data to be compared is moved to a single computing device. Also see Oki column 2, lines 40-66 where it is disclosed that the computing device has storage memory for storing the data sets); and

- a processor coupled to the data store and having an output, such that the

  processor (See Oki column 3, lines 23-39 where it is disclosed that the methods

  can be performed by a computer system having a processor to execute the steps

  of the method)

  - identifies potentially different data records in the first data set at least in

    part by comparing records in the first data set to records in the second

    data set (See Oki column 1, lines 31-54 where it is disclosed that records

    from two sets of data are compared to identify if they are identical or

    different) and

  - verifies that the potentially different records identified as potentially

    different are different using at least one predetermined criteria (See Oki

    column 1, lines 31-54 where it is disclosed that based on the comparison

    between the two sets of data it is determined if individual records are

    identical or not) and

  - identifies the different records on the output (See Oki column 1, lines 31-

    54 where it is disclosed that a result identifying the differences between

    the two data sets is output).

Claim 13: Oki discloses the device of claim 12 wherein the processor includes means

for defining a set of similarity characteristics, means for grouping the data records in

each of the first and second sets according to the similarity characteristics into similarity

groups, and means for comparing the similarity groups in the first data set to the

similarity groups in the second data set.

Claim 14: Oki discloses the device of claim 12 wherein the processor includes means

for determining whether each record in the first data set completely matches with a data

record in the second data set (See Oki column 5, lines 17-65 where it is disclosed that

records are grouped according to a hashing function, and that individual groups are

compared with their counterparts in the other set of data).

Claim 15: Oki discloses the device of claim 12 wherein the processor includes means

for determining from the second data set a set of data records that are similar to the

potentially faulty record identified in the first data set (See Oki column 5, lines 17-65

where it is disclosed that records are grouped according to a hashing function, and that

individual groups are compared with their counterparts in the other set of data).

Claim 17: Oki discloses the device of claim 12 wherein the different data records can

be faulty data records or mismatched data records (See Oki column 1, lines 10-28

where it is disclosed that the records may be different for any number of reasons,

including data replication errors which would render the records faulty).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Oki et al. (US 5,802,528) as applied to claims 5 and 12 above.

Claim 10: Oki discloses the method of claim 5 wherein verifying includes

- scoring elements of each of the plurality of data records to form a plurality of

  scores (See Oki column 5, lines 17-61 where it is disclosed that checksums are

  calculated for each data record based on the information in the data record),

- comparing the test score to a predetermined minimum score (See Oki column 5,

  lines 17-61 where it is disclosed that the resulting checksums of the first set of

  data are compared to the checksums from the second set of data), and

- determining a different record if the comparison determines the test score is

  unacceptable (See Oki column 5 lines 17-61 where it is disclosed that the

  comparison based on the checksums determines the differences between the

  data sets. Also see Oki column 1, lines 30-54 where it is disclosed that these

  differences can be used to determine a different, third record that can be used to

  modify the original data sets).

But Oki does not explicitly disclose multiplying the plurality of scores to form a test

score. However Oki does disclose that the scores calculated are checksums, and can

be combined to form larger checksums (See Oki column 5, lines 46-61). Therefore it

would have been obvious to one having ordinary skill in the art at the time the invention

was made to multiply the plurality of scores to form the test score. One would have

been motivated to multiply the scores to form the test score because Oki was using a

checksum method, and a checksum uses a mathematical function not limited to

multiplication to compute the checksum and combine checksums.

Claim 16: Oki discloses the device of claim 12 wherein the processor includes

- means for scoring elements of each of the plurality of data records to form a
  plurality of scores (See Oki column 5, lines 17-61 where it is disclosed that
  checksums are calculated for each data record based on the information in the
  data record),

- means for comparing the test score to a predetermined minimum score (See Oki
  column 5, lines 17-61 where it is disclosed that the resulting checksums of the
  first set of data are compared to the checksums from the second set of data),
  and

- means for determining a different record if the comparison determines the test
  score is unacceptable (See Oki column 5 lines 17-61 where it is disclosed that
  the comparison based on the checksums determines the differences between the
  data sets. Also see Oki column 1, lines 30-54 where it is disclosed that these

differences can be used to determine a different, third record that can be used to

modify the original data sets).

But Oki does not explicitly disclose multiplying the plurality of scores to form a test

score. However Oki does disclose that the scores calculated are checksums, and can

be combined to form larger checksums (See Oki column 5, lines 46-61). Therefore it

would have been obvious to one having ordinary skill in the art at the time the invention

was made to multiply the plurality of scores to form the test score. One would have

been motivated to multiply the scores to form the test score because Oki was using a

checksum method, and a checksum uses a mathematical function not limited to

multiplication to compute the checksum and combine checksums.

7.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oki et al.

(US 5,802,528) as applied to claim 1 above, and further in view of Becker et al. (US

6,598,119).

Claim 2: Oki discloses the method of claim 1 but does not explicitly disclose that

identifying a first and second data records identifies telecommunication call detail

records (CDRs). However Becker discloses that replication and synchronization

techniques can be used on data sets including call detail records (See Becker Abstract).

Therefore it would have been obvious to one having ordinary skill in the art to combine

the teachings of Oki and Becker and that the first and second data records could

identify telecommunication call detail records. One would have been motivated to

combine the teachings of Oki and Becker because they are both directed to data

management, and Becker teaches using replication and synchronization techniques on

additional data types.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

     a.   Brill et al. (US 2007/0016616) discloses an automated error checking

     system and method.

     b.   Sasaki et al. (US 2007/0143358) discloses a data synchronization system

     and method.

     c.   Zoltan (US 2003/0158868) discloses a system for synchronizing replicated

     data.

     d.   Mau (US 7,222,139) discloses a method for synchronizing data.

     e.   Swaminathan et al. (US 2004/0267729) discloses a system for managing

     data across an enterprise.

     f.   Givoly et al. (US 2002/0199024) discloses a threshold-based database

     system

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK E. SWEENEY whose telephone number is (571)270-1687. The examiner can normally be reached on Mon. - Fri. (Alternate Fridays Off) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571)272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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